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ABSTRACT

A cloze test was administered to 210 seventh grade students of low socioeconomic status to determine whether dialect and second language interfered with adolescents' use of print language during the process of silent reading. The population was comprised of black, Chicano, and white students. Based on the exact cloze scores, 24 triples were matched from the three ethnic groups. Four different scoring procedures were devised for deriving appropriateness of nonexact answers on the cloze tests on the bases of semantics and syntax. An independent judge administered the four scoring procedures. The three groups were compared by a series of ANOVAs on semantic errors, syntax errors, and substitutes derived by the four procedures. It was found that dialect and second language did not interfere in the adolescent's silent reading process when reading ability and socioeconomic status were controlled. (Author/RL)

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A PSYCHOLINGUISTIC ANALYSIS OF THE CLOZE RESPONSES OF LOW (SES) BLACK, CHICANO, AND WHITE JUNIOR HIGH SCHOOL STUDENTS

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A PSYCHOLINGUISTIC ANALYSIS OF THE CLOZE RESPONSES OF LOW (SES) BLACK, CHICANO, AND WHITE JUNIOR HIGH SCHOOL STUDENTS

The issues of linguistic difference, language interference, socio-economic status (SES), and how these relate to language use have been the subject of numerous studies. These studies focused primarily on the younger reader. Recently, for example, Raetkin (1979) demonstrated that when socio-economic status is controlled Black, Chicano, and White primary students are capable of equivalent reading gains. Dialect differences and second language interference proved to be of little or no consequence. Raetkin emphasized that if a single set of materials is to be used with children of varied language backgrounds the teacher should be sensitive to the differences in these backgrounds.

We sought to ascertain if dialect and second language interfered with the language use of readers in a manner similar to the Raetkin study. The method for ascertaining these differences and the age of the reader were the major considerations made in this study. Analysis of silent reading was the basis of comparison for the population made up of adolescents.

Research has provided sufficient evidence to indicate that children from low SES groups use a language that is different from children of high SES groups (Bloom, Davis, and Hess, 1965). Research further supports the idea that a reader's cultural and linguistic background may affect the way a particular reader makes use of print language (Baratz, 1969; Hudelson, 1979; Labov, et. al., 1968; Matluck and Mace, 1973; Modiano, 1973; Padilla and Liebman, 1975; Stewart, 1969). Based on the above we posed the following

research question: Do dialect and second language interfere when adolescent readers of the same SES group make use of print language through the process of silent reading? More specifically, this study sought to determine if there were differences in the use of syntax and semantics among low SES Black, White, and Chicano students of similar reading ability. The researchers sought to further determine, if differences did occur, whether these differences relate to dialect and/or bilingual interference.

METHODOLOGY

An appropriately graded fifty-item cloze test with every fifth word deleted and the reading comprehension sub-test of the Comprehensive Test of Basic Skills (CTBS), 1968, were administered to 210 seventh grade, low SES students. This population was comprised of Black, Chicano, and White students, male and female. From this population three students, one from each ethnic group, were identified and matched on the basis of exact cloze score. This process was continued until twenty-four triples were identified and matched. Table 1 contains the distribution of exact cloze scores on which matched triples were identified.

Insert Table 1

Table 2 reports the means of the exact cloze responses for each of the three groups, Black, Chicano, and White. The mean of 19.5 converts to a score of thirty-nine percent. This score falls slightly below what is considered to be an instructional score on a cloze test. By returning to Table 1 the reader can readily see the scores ranged upward from the mean into the instructional

range and downward into the frustration range. This spectrum appeared to be the most appropriate for analyzing non-exact responses because it was expected that an adequate number of non-synonyms would be revealed. The findings of Asher, Hymel, and Wigfield (1976) indicated children with higher cloze scores generate more synonyms.

Insert Table 2

Since the comprehension sub-test of the CTBS had been administered at the same time as the cloze test, an analysis of variance was tabulated on those scores. Table 3 reports the results of this analysis. The F-value of .52 pointed to the fact that no significant difference existed among the CTBS scores of the three groups of students.

Insert Table 3

Following this procedure the cloze tests for each group were pooled into a single 1,200 item cloze test. A two-way analysis of variance, matched (triples) design was used to test the differences among the mean scores of exact cloze responses for the three groups. As expected the F-value was 0.0 and the significance level was 1.0 when the three groups were matched on the number of exact cloze responses.

Next, the number of omissions for each group was determined. For Blacks, Chicanos, and Whites the mean number of omissions was 2.9, 1.7, and .7 respectively, and the ANOVA revealed no significant differences ($F=1.8$, $p \geq .2$).

Additional analyses were aimed at determining the semantic and syntactic appropriateness of the remainder of the cloze responses. Goodman (1969) and others have conducted psycholinguistic analyses of younger children's oral miscues. With this analysis, significant concentrations of syntactic and semantic errors identify differences in the language use among various cultural-linguistic groups. For the adolescent reader, this miscue analysis is questionable because oral reading may not be an accurate reflection of use of print language at this level. Due to the fact completion of the cloze test is a silent reading task, we felt that analysis of cloze responses was more appropriate for an adolescent reader. Recently, psycholinguistic analyses of cloze responses have been validated (Asher, Hymel, and Wigfield, 1976; Vaughn, Tierney, and Alpert, 1977).

In developing our analysis procedure, the first step was to establish methods of analyzing and categorizing the non-exact cloze responses. Asher, Hymel, and Wigfield (1976) and Vaughn, Tierney, and Alpert (1977) relied on a panel of judges and verified interjudge reliability as the method for analyzing non-exact cloze responses. Because neither study reported the qualifications of the judges, we elected to forego a panel of judges and, instead, used one highly qualified judge, a Ph.D. student who was concentrating her studies in English and Linguistics.

Having determined that one independent, qualified judge would be employed to carry out the analysis, we then established the criteria for categorizing the relative appropriateness of each non-exact response. Several researchers suggest relatedness between semantics and syntax. The importance of grammatical acceptability of non-exact responses has been established (Hafner, 1964; Bormuth, 1964). Likewise, semantic acceptability in the process is important; however, Vaughn, Tierney, and Alpert (1977) report that

while it is possible to rigorously define syntactic acceptability, it is not equally feasible to separate semantics from syntax, as they are neither, "independent of one another, nor totally dependent."

This apparent relatedness suggests that multiple analyses be performed in order to prevent disclosures of a single scoring system from masking differences in language use among the three groups. The researchers identified four procedures which would allow for consideration of semantic and syntactic appropriateness in different order, and these would facilitate two different criteria for syntactic acceptability.

Procedure 1

Step A: All non-exact responses were considered for syntactic acceptability, the criteria being correctness in part of speech, grammatical function, and correctness in number, gender, and tense.

Step B: Those answers not eliminated in Step A were then considered for semantic appropriateness, the criteria being that it make sense in the sentence.

Step C: Those answers not eliminated in Steps A and B were then totaled and called acceptable substitutes.

Procedure 2

This was identical to Procedure 1 except the first two steps were reversed with the test for semantic appropriateness coming first. If an answer was first considered semantically inappropriate then it was not considered for syntactic appropriateness. Those responses which qualified for both the semantic and

syntactic appropriateness tests were then considered as substitutes.

Procedure 3

This was actually a variation of Procedure 2. The non-exact responses which had been categorized as semantically acceptable in Procedure 2 were pooled as substitutes. The syntactic appropriateness test was omitted. Categories in this procedure included only semantically incorrect and semantically correct responses; the latter were labeled as substitutes.

Procedure 4

Here, a more conservative measure of syntactic acceptability was applied. In addition to the criteria for syntactic acceptability used in Procedure 1, the judge also considered syntactically appropriate responses for subtle meaning changes. After these changes were identified the response was considered syntactically inappropriate. A separate category for semantic error was omitted. This procedure included categories for syntactically appropriate and syntactically inappropriate responses.

When the analyses for all procedures were completed the ANOVA was applied to the three groups' performance in each category of the four procedures. Because each procedure categorized responses into discrete categories and accounted for all of the responses, application of the ANOVA was possible. In effect, the abilities of Black, Chicano, and White students to make use of semantics and syntax were compared from different viewpoints.

RESULTS

Table 4 includes the results of the ANOVA for the three groups completed on syntax error derived by three separate means. No significant differences were found among the three groups when the comparisons were made on syntax error derived from Procedure 1. For Procedure 4, the mean number of syntax errors increased for each of the three groups; however, no significant differences were found among the three groups for syntax errors in Procedure 4. Table 4 also includes the ANOVA for the three groups completed on syntax error derived by Procedure 2. By this procedure semantically incorrect answers were eliminated prior to consideration of syntax errors. While there was no significant difference found between Blacks and Chicanos in the mean number of syntax errors, significant differences were found between Blacks and Whites and Chicanos and Whites.

Beginning here Tables 4, 5, 6A and 6B should be spaced where appropriate.

Table 5 reports the results of the two ANOVAs completed on the three groups for semantic error derived by two different means. In Procedure 1 syntax error was considered and eliminated prior to semantic error. When semantic error was derived in this manner, no significant differences were found among the three groups on the variable of syntax error. In Procedures 2 and 3 semantic error was considered and eliminated prior to consideration of syntax error. No significant differences were found among the mean number of semantic errors for the three groups when semantic error was considered before syntax error.

Tables 6A and 6B report the results of the ANOVAs completed on the three groups for the substitutes derived by four separate scoring procedures. Because no significant differences were found among the three groups in any of the four scoring procedures, the number of substitutes generated seemed to be unaffected by group or scoring procedure.

CONCLUSIONS AND RECOMMENDATIONS

This study sought to determine if dialect and second language interfere when adolescent readers of the same SES group make use of print language through the process of silent reading. Comparisons of cloze responses among Black, Chicano, and White students of the same SES revealed, for the most part, no differences among the three groups in their abilities in generating acceptable synonyms, or their use of semantics or syntax. Only one analysis revealed that White students generated more syntax errors than Black and Chicano students, and this occurred when semantic errors had previously been eliminated. Table 7 includes data regarding this finding.

Insert Table 7

These findings suggest that the White students gained more meaning from the passage than the other two groups, but they generated more syntax errors. One might attempt to ascertain that the White students more clearly followed meaning and had greater difficulty in dealing with syntax. However, because the three groups scored about the same mean number of semantic errors (syntax previously eliminated), such a conclusion cannot be drawn (Column 2, Table 7). Because the three groups generated a nearly equal number of

substitutes in each procedure we conclude, therefore, that when SES and reading ability are controlled, dialect and second language do not interfere with junior high school students' use of print language in silent reading. Additionally, this study supports the contention of Vaughn, Tierney, and Alpert (1977) that semantics and syntax, as separate aspects of language, cannot be totally isolated, one from the other.

Table 1

Distribution of Cloze Scores of 24 Identified and Matched Black, Chicano, and White Students

Raw Cloze Scores (exact)	Percent (%)	Frequency
26	52	2
24	48	1
23	46	3
22	44	2
21	42	3
20	40	1
19	38	2
18	36	4
17	34	1
16	32	1
15	30	1
14	28	1
13	26	1
12	24	1
		TOTAL 24

Table 2

Means of Exact Cloze Responses for the Three Groups

Group	n	$\bar{X}$
Black	24	19.5
Chicano	24	19.5
White	24	19.5

Table 3

Results of the Analysis of Variance on the CTBS Comprehension Scores for the Black, Chicano, and White Students

Source	df	SS	MS	F	p
Triples	23	1972.3			
Race	2	50.9	25.4	.52	n.s.
Error	46	2233.5	48.6		

Table 4

Results of Analysis of Variance for Syntax Error Scored by Three Procedures

ANOVA for Procedure 1
Syntax Error Scored First

Source	df	SS	MS	F	p
Between triples	23	461.6	20.1	2.1	.01
Within triples (Race)	2	7.2	3.6	0.4	.7
Error	46	428.1	9.3		

Means for Procedure 1
Syntax Error Scored First

Group	n	X̄
Black	24	9.8
Chicano	24	10.5
White	24	10.4

ANOVA for Procedure
Semantic Error Removed Before Syntax Error

Source	df	SS	MS	F	p
Between triples	23	101.1	4.4	1.77	.05
Within triples (Race)	2	44.4	22.2	8.92	.01
Error	46	114.3	2.5		

Means for Procedure 2
Semantic Error Removed Before Syntax Error

Group	n	X̄
Black	24	*4.75
Chicano	24	5.04
White	24	6.54

*The bar indicates group means that are not significantly different as determined by Fisher's LSD test at the .05 level.

ANOVA for Procedure 4
Syntax Error Only Scored by a More Stringent Measure

Source	df	SS	MS	F	p
Between triples	23	586.0	25.5	1.6	.09
Within triples (Race)	2	4.0	2.0	.1	.9
Error	46	732.0	16.0		

Means for Procedure 4
Syntax Error Only Scored by a More Stringent Measure

Group	n	X̄
Black	24	11.7
Chicano	24	11.6
White	24	12.1

Table 5

Results of Analysis of Variance for Semantic Error Scored by Two Procedures

ANOVA for Procedure 1
Syntax Error Removed Prior to Semantic Error

Source	df	SS	MS	F	p
Between triples	23	148.3	6.4	1.0	.4
Within triples (Race)	2	3.4	1.7	.03	.8
Error	46	281.9	6.1		

ANOVA for Procedures 2 and 3
Semantics Scored First

Source	df	SS	MS	F	p
Between triples	23	450.0	19.6	1.3	.2
Within triples (Race)	2	30.1	15.0	1.0	.4
Error	46	687.9	15.0		

Means for Procedure 1
Syntax Error Removed Prior to Semantic Error

Group	n	$\bar{X}$
Black	24	4.4
Chicano	24	4.5
White	24	4.9

Means for Procedures 2 and 3
Semantics Scored First

Group	n	$\bar{X}$
Black	24	8.9
Chicano	24	9.7
White	24	10.5

Table 6A

Results of Analysis of Variance for Substitutes
Derived Through Four Scoring Procedures

ANOVA for Procedure 1
Error Removed in the Order of Syntax
First, Semantics Second

Source	df	SS	MS	F	p
Between triples	23	393.2	17.1	1.4	.1
Within triples (Race)	2	14.3	7.2	.6	.5
Error	46	544.3	11.9		

ANOVA for Procedure 2
Error Removed in the Order of Semantics
First, Syntax Second

Source	df	SS	MS	F	p
Between triples	23	245.7	10.7	1.2	.3
Within triples (Race)	2	22.5	11.3	1.3	.3
Error	46	399.5	8.7		

Means for Procedure 1
Error Removed in the Order of Syntax
First, Semantics Second

Group	n	$\bar{X}$
Black	24	13.4
Chicano	24	13.8
White	24	14.5

Means for Procedure 2
Error Removed in the Order of Semantics
First, Syntax Second

Group	n	$\bar{X}$
Black	24	13.8
Chicano	24	14.1
White	24	12.8

Table 6B

Results of Analysis of Variance for Substitutes Derived Through Four Scoring Procedures (Continued)

ANOVA for Procedure 3
Semantics Only Scored

Source	df	SS	MS	F	p
Between triples	23	445.8	19.4	1.8	.04
Within triples (Race)	2	4.9	2.4	.2	.8
Error	46	487.2	10.6		

ANOVA for Procedure 4
More Stringently Measured Syntax Error Removed

Source	df	SS	MS	F	p
Between triples	23	368.2	16.0	1.6	.1
Within triples (Race)	2	41.0	20.4	2.0	.1
Error	46	464.0	10.1		

Means for Procedure 3
Semantics Only Scored

Group	n	$\bar{X}$
Black	24	18.7
Chicano	24	19.1
White	24	19.3

Means for Procedure 4
More Stringently Measured Syntax Error Removed

Group	n	$\bar{X}$
Black	24	15.8
Chicano	24	17.2
White	24	17.6

Table 7

Summary Table of Select Semantic, Syntax Scores for Blacks, Chicanos, Whites

Group	Syntax Error (Semantic error removed first--Procedure 2)	Semantic Error (Syntax error removed first--Procedure 1)
Blacks	4.75	4.4
Chicanos	5.04	4.5
Whites	6.54*	4.9

*Group score which differs significantly from other two group scores.

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